

Singh reference identifying reference (4) as the Robert reference is enclosed for the Examiner's convenience. A copy of the originally cited reference, the Robert reference, is also enclosed.

Table 7.6 of the Singh reference corresponds to Table III of the Robert reference. The tables compare Arundo donax pulp that has is subjected either oxygen treatment or conventional bleaching. The Robert reference describes the bleaching step as "pulp after chlorination and caustic soda extraction" and the Singh reference describes the bleaching step as "conventional CE bleaching." "CE" refers to chlorination and extraction steps. Table IV of the Robert reference also identifies Arundo donax pulp bleaching sequences that include chlorine and chlorine dioxide. Table IV of the Robert's reference is not included in the Singh reference. It is clear that like the Robert reference, the Singh reference describes a bleaching process that does include chlorine treatment, and that neither reference describes a chlorine-free bleaching process.

The oxygen treatment noted in the Singh reference merely describes a single stage in a multi-stage bleaching sequence. At page 183, the reference states "5-stage bleaching is normally sufficient for a fully bleached hardwood kraft pulp" and that "[f]or softwoods . . . 6-7 stages are common." Clearly, the Singh reference acknowledges that bleaching is a multi-stage process and that the oxygen treatment noted by the Examiner is a stage in the bleaching process. The Singh reference does not describe a chlorine free bleaching process for Arundo donax pulp.

Because the Singh reference does not describe a chlorine free bleaching process, the reference does not describe every element of the invention of Claim 1 and is not anticipatory. Accordingly, applicants respectfully request withdrawal of this ground of rejection.

Regarding the Section 103 rejection, three requirements are listed in the M.P.E.P. § 607.02(j) for establishing a prima facie case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable

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expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations.

As noted above, the Singh reference does not teach or suggest every element of the invention of Claim 1. For this reason, Claim 1 is nonobvious in view of the teachings of the Singh reference and respectfully request withdrawal of this ground of rejection.

Rejection of Claims 1-9 Under 35 U.S.C. § 103(a)

Claims 1-9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Singh or WO 99/66119 (Alzheimer) in view of Canadian Patent No. 2,132,056 (Nummenaho et al.) with or without WO 96/09434 (Henricson et al.). According to the Examiner, Singh and Alzheimer teach bleaching of Arundo donax pulp, and it would have been obvious to use any well-known TCF bleaching process, such as the bleaching sequences of Nummenaho et al. or Henricson et al., to bleach Arundo donax pulp because Nummenaho teaches that TCF bleaching provides better environmental protection than either chlorine and/or chlorine dioxide bleaching processes.

The Singh reference teaches chlorine bleaching of Arundo donax pulp. Like the Singh reference, the Alzheimer reference fails to describe chlorine free bleaching of Arundo donax. The Nummenaho and Henricson references teach chlorine free bleaching processes that include bleaching with at least two of three bleaching agents: (1) oxygen; (2) ozone; and (3) peroxide. These references do not describe bleaching Arundo donax pulp.

Because the Singh reference teaches chlorine bleaching of Arundo donax, the reference teaches away from the claimed invention. The teaching of the Singh does not suggest or provide any motivation to use any other bleaching process for Arundo donax pulp.

More importantly, the Singh reference could not possibly suggest a chlorine free process because such processes were unknown at the time. The Singh reference is dated 1972 and is

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based on the work of Robert published in 1968. Chlorine free bleaching process did not come into existence until the mid- to late-1980s. Therefore, the Singh reference cannot teach or suggest any bleaching process that is chlorine free.

Although the Nummenaho and Henricson references do describe chlorine free bleaching processes, these references are silent with respect of bleaching *Arundo donax*. Applicants submit that, because the Singh reference achieves the goal of a relatively bright *Arundo donax* pulp (e.g., 86-87 ISO, see Robert reference, Table IV) with conventional chlorine bleaching, one skilled in the art would not be motivated by the teaching of the reference, either by itself or in combination with the teachings of the Nummenaho and Henricson references, both of which are silent with respect to *Arundo donax*, to modify the Singh process by replacing the chlorine bleaching process with a chlorine free bleaching process to arrive at the claimed invention. Accordingly, withdrawal of this ground for rejection is respectfully requested.

Conclusion

In view of the foregoing remarks, applicants believe that Claims 1-9 are in condition for allowance. If any issues remain that may be expeditiously addressed in a telephone interview, the Examiner is encouraged to telephone applicants' attorney at 206-695-1755.

Respectfully submitted,

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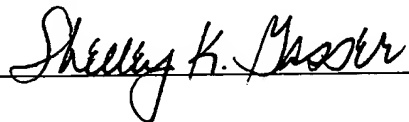


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